

REMARKS

Claims 1-32 are pending in this application. By this Reply, the specification and claims 1-4, 6, 7, 9, 13, 14, 19-25, 27, 29, and 31 are amended. Reconsideration and withdrawal of the rejections are respectfully requested in view of the foregoing amendments and following remarks.

The disclosure is objected to based on various informalities. By this Reply, the specification has been amended and is believed to comply to the requirements of the Patent Office. No new matter has been added by this amendment. Withdrawal of this objection is respectfully requested.

Claim 1 stands objected to based on an informality. By this Reply, claim 1 is amended and is believed to comply with the requirements of the Patent Office. Withdrawal of this objection is respectfully requested.

Claims 1-32 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly containing subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or which it is most nearly connected, to make and/or use the invention. This rejection is respectfully traversed.

The Patent Office asserts that there is no disclosure of what the quality of service (QoS) parameter is, and how it is determined. Applicant respectfully submits that the numerous methods of determining a QoS parameter are well known in the art, and need not be disclosed in the specification. For example, as is known in the art, Quality-of-Service (QoS) is a set of

service requirements to be met by the network while transporting a flow. It can be measured in any number of ways, all of which are known in the art. For example, it could be based on Signal to Interference and Noise Ratio (SINR), as is discussed in the article, "Adaptive QoS for Mobile Multimedia Applications Using Power Control and Smart Antennas," Alejandra Mercado and K.J. Ray Liu, IEEE International Conference on Communications, pp. 60-64, June 2000.

Accordingly, it is respectfully submitted that claims 1-32 comply with the requirements of Section 112. Withdrawal of this rejection is thus respectfully requested.

Claim 14 stands rejection under 35 U.S.C. §112, first and second paragraphs. Claim 14 has been amended and is believed to comply with the requirements of Section 112. Withdrawal of this rejection is thus respectfully requested.

Claims 1-32 stand rejected under 35 U.S.C. § 103(a) over Ward et al. (High throughput slotted ALOHA packet radio networks with adaptive arrays, J. Ward et al., IEEE Transactions on Communications, Vol. 41(3), p. 460-470, March 1993) (hereinafter Ward), in view of Mercado et al. (Adaptive QoS for mobile multimedia applications using power control and smart antennas, A. Mercado et al., IEEE International Conference on Communications, Vol. 1, p. 60-64, June 2000) (hereinafter Mercado). Alternatively, claims 1-31 stand rejected under 35 U.S.C. § 103(a) over Mercado in view Ward. This rejection is respectfully traversed.

The asserted combination of references fails to establish a prima facie case of obviousness, as required by Section 103. For example, the combination of references fails to teach or suggest at least a determining part configured to determine a forward link quality of

service parameter according to a required service quality, a weighted vector calculator configured to calculate a weighted vector using an estimated reception angle and the forward link quality of service parameter, and a transmitter configured to apply the weighted vector to a signal to be transmitted, as recited in claim 1.

Moreover, the combination of references fails to teach or suggest at least determining a forward link QoS parameter of a received signal, calculating a weighted vector using a estimated reception angle and the forward link QoS parameter, and applying the calculated weight vector to a signal to be transmitted , as recited in claim 19.

Finally, the asserted combination of references fails to teach or suggest at least determining a forward link quality of service parameter for a first subscriber, and transmitting a transmission signal to the first subscriber by increasing a gain in a desired signal direction and decreasing a gain in an interference signal direction in accordance with an estimated reception angle and the forward link QoS parameter, as recited in claim 29.

According to a preferred embodiment of the claimed invention, weight vectors are determined to be used for the efficient transmission of a signal from a base station to a mobile station. The weight vectors are determined by considering a Quality of Service (QoS) of a forward link, without using weight vectors estimated in the reverse link. As is know in the art, the required QoS in a reverse link is different than that of a forward link.

Each of the asserted references, however, teaches a method of obtaining a weight vector based on a QoS of a reverse link, and does not consider the QoS of the forward link. Moreover, there is no teaching of the difference between the QoS in the forward link and the reverse link.

Consequently, it is respectfully submitted that the combination of references fails to teach or suggest all of the claimed features. Claims 2-18 depend from claim 1, claims 20-28 depend from claim 19, and claims 30-32 depend from claim 29. These dependent claims are allowable for at least the same reasons as the corresponding independent claims. Because a prima facie case of obviousness cannot be made, it is respectfully requested that this rejection be withdrawn.

CONCLUSION

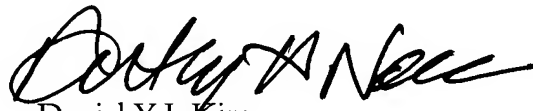
In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **Anthony H. Nourse**, at the telephone number listed below.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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